A.D. 1865, 2nd December. N° 3098.

SPECIFICATION

OF

GEORGE ASH.

SECURING ARTIFICIAL TEETH.

LONDON:
PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY:
PUBLISHED AT THE GREAT SEAL PATENT OFFICE,
25, SOUTHAMPTON BUILDINGS, HOLBORN.
6d. 1866.

A.D. 1865, *2nd December.* N° 3098.

Securing Artificial Teeth.

LETTERS PATENT to George Ash, of Great Marlborough Street, in the County of Middlesex, for the Invention of "Improvements in Securing Artificial Teeth in the Mouth."

Sealed the 8th May 1866, and dated the 2nd December 1865.

PROVISIONAL SPECIFICATION left by the said George Ash at the Office of the Commissioners of Patents, with his Petition, on the 2nd December 1865.

I, George Ash, of Great Marlborough Street, in the County of Middlesex, do hereby declare the nature of the said Invention for "Improvements in Securing Artificial Teeth in the Mouth," to be as follows:—

This Invention has for its object improvements in securing artificial teeth in the mouth. Artificial teeth are at the present time usually mounted on a base or plate of vulcanite, gold, or other material made accurately to fit the gums and interior of the mouth, and to secure such base or plate within the mouth springs or clips are ordinarily employed.

According to my Invention I secure the base or plate more solidly by so arranging it that a vacuum may be formed and maintained between it and the interior of the mouth. For this purpose I form a hole through or cavity in the base or plate, and fit into this hole or cavity a diaphragm either elastic in itself or else supported by a spring, which tends to press it away from or out of contact with the palate or gum. In fastening the teeth in the mouth the finger is pressed on this diaphragm, or the diaphragm is otherwise depressed, and the air is thus expelled from beneath it. On the finger being removed the spring presses up the diaphragm, and so a partial vacuum is formed beneath the base or plate, which is thus caused to adhere with sufficient force. This arrangement alone would not however be efficient, as the joint between the diaphragm and the palate or gums would not remain air-tight. In order to ensure an air-tight joint with the palate or gum around the diaphragm a piece of leather or other similar material is secured to the under side of the base or plate around the diaphragm, and its edges which should be left loose rest on the palate or gum, and when the partial vacuum is formed beneath the leather it adheres closely and makes a perfect joint.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said George Ash in the Great Seal Patent Office on the 2nd June 1866.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, George Ash, of Great Marlborough Street, in the County of Middlesex, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Second day of December, in the year of our Lord One thousand eight hundred and sixty-five, in the twenty-ninth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said George Ash, Her special licence that I, the said George Ash, my executors, administrators, and assigns, or such others as I, the said George Ash, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "Improvements in Securing Artificial Teeth in the Mouth," upon the condition (amongst others) that I, the said George Ash, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said George Ash, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say:—

This Invention has for its object improvements in securing artificial teeth in the mouth. Artificial teeth are at the present time usually mounted on a base or plate of vulcanite, gold, or other material made accurately to fit the gums and interior of the mouth, and to secure such base or plate within the mouth springs or clips are ordinarily employed.

According to my Invention I secure the base or plate more solidly by so arranging it that a vacuum or partial vacuum may be formed and maintained between it and the interior of the mouth. For this purpose I form a hole through a cavity in the base or plate, and fit into this hole or cavity a diaphragm either elastic in itself, or else supported by a spring, which tends to press it away from or out of contact with the palate or gum. In fastening the teeth in the mouth the finger is pressed on this diaphragm (or the diaphragm is otherwise depressed), and the air is thus expelled from beneath it. On the finger being removed the spring presses up the diaphragm, and so a partial vacuum is formed beneath the base or plate, which is thus caused to adhere with sufficient force by the pressure of the atmosphere. In order to make this arrangement more efficient, and in order to ensure an air-tight joint with the palate or gum around the diaphragm a piece of thin gutta percha, india-rubber, leather, or other similar material is secured to the under side of the base or plate around the diaphragm, and its edges which should be left loose rest on the palate or gum, and when the partial vacuum is formed beneath the leather it adheres closely, and makes a perfect joint.

In the annexed Drawing Figure 1 shows a plan of a set of artificial teeth mounted in vulcanite or hardened india-rubber, and suitable for the upper jaw, and I would remark that it is to sets of teeth adapted to the upper jaw that my Invention is more especially applicable; Figure 2 is a section taken at the line 1, 1, Figure 1; Figure 3 shows some of the parts on a larger scale.

a, *a*, are the teeth with a setting of vulcanite formed around them in the usual way; *c*, *c*, is a metal ring of U-form in section, which is embedded in the vulcanite composition when in a plastic state, and which when the vulcanite is hardened becomes secured in its place; *d*, *d*, is a flexible diaphragm of vulcanized india-rubber cut to form and sprung into the ring *c* as is shown; *e*, *e*, is a flap or apron of thin gutta percha, leather, or other material secured around the diaphragm *d* to make a perfectly tight joint against the palate or gum of the wearer. It will be seen that the material of which the flap *e* is formed is lapped over the flexible diaphragm *d*, the elasticity of which causes it to be forced into the cavity of the ring *c* all round, and the flap is thus securely held. Where a gold plate is employed in place of a vulcanite setting for the teeth I proceed in a similar manner, except that the **U**-groove of the ring *c* is formed with the plate. In some cases where the teeth are set in a base of vulcanite in place of moulding a ring *c* therein as before described to receive a separate flexible diaphragm, I make the flexible diaphragm in one piece with the vulcanite. On the model of the mouth on which the form for the vulcanite is moulded in wax I produce a small eminence corresponding with the cavity which it is desired there should be under the flexible diaphragm. I then, as is usual, make a mould from the model, and the vulcanite composition is pressed into the mould around the teeth so as to make a firm setting for them, but for the part where the diaphragm is to be formed, and for a distance around it I employ in place of hard vulcanite composition a composition containing less sulphur, and known to dentists as "soft rubber," which composition when exposed to the heat necessary to produce the vulcanite does not become hard, but retains more or less the nature of ordinary vulcanised india-rubber.

Figure 4 shows a plan of a set of teeth in which this method of construction is adopted.

a, *a*, are the teeth; *b*, *b*, the vulcanite in which they are set; *c*, *c*, the parts which are made of soft rubber. It will be seen that this soft rubber is continued at c^1 as far back over the palate as it can conveniently be in order to secure an air-tight fit.

In witness whereof, I, the said George Ash, have hereunto set my hand and seal, this Second day of June, in the year of our Lord One thousand eight hundred and sixty-six.

GEORGE ASH. (L.S.)

LONDON:
Printed by George Edward Eyre and William Spottiswoode,
Printers to the Queen's most Excellent Majesty. 1866.

A.D. 1865, Dec. 2, Nº 3098,
ASH'S Specification.

(1 SHEET)

FIG. 1.

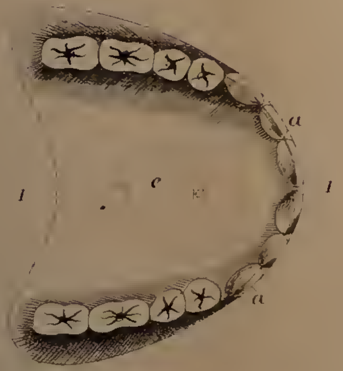


FIG. 4.

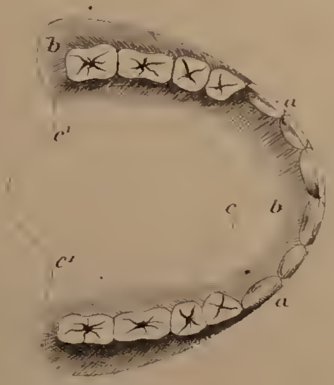


FIG. 2.

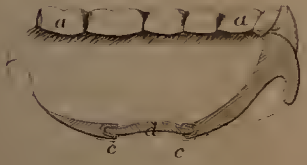
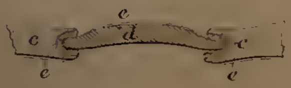


FIG. 3.



The filed drawing is partly colored

Drawn on Stone by Malby & Sons

London Printed by George Edward Eyre and William Spottiswoode,
Printers to the Queen's most Excellent Majesty. 1866.